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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/533,165

04/29/2005

Michael Hohne

22204-100571

9284

28886

7590

12/18/2006

CLARK HILL, P.C.

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DETROIT, MI 48226

EXAMINER

WONG, TINA MEI SENG

ART UNIT

PAPER NUMBER

2874

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|----------------------------------------|-----------|---------------|
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3 MONTHS

12/18/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/533,165

Applicant(s)

HOHNE ET AL.

Examiner

Tina M. Wong

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is responsive to Applicant's response submitted 20 November 2006.

Drawings

The drawings were received on 20 November 2006. These drawings are accepted by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent

Application Publication 2003/0209655 to Wang.

In regards to claim 1, Wang discloses a multilayered sensor (Figure 4c) through which an optical waveguide (410) is passed, the optical waveguide defining a structure in which the optical waveguide is contained, the structure consisting of a front layer (471) and a rear layer (472), which transmit the external application of force directly on to the optical waveguide, the structure further including clips and ribs (471a & 472a) which serve to guide the optical waveguide.

In regards to claims 2 and 3, Wang discloses the optical waveguide to be arranged such that it is bent or deformed by an external application of force.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent Application Publication 2003/0209655 to Wang, as applied to claim 1 above, in view of U.S. Patent 5,913,245 to Grossman.

In regards to claims 6 and 7, although Wang does not specifically disclose an adhesive layer applied to the edges of the front and rear layers, Grossman discloses a similar multi-layered sensor, deformed by a force to include an adhesive for joining together components.

Furthermore, by applying an adhesive around the outside of the sensor would prevent unwanted external factors from damaging or altering the sensitive fiber and sensor. Therefore, since Wang is silent on the detail of joining the components, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have included an adhesive around the edges of the front and rear layers for the reasons indicated above.

In regards to claim 8, Wang discloses all discussed above and further discloses a first layer (layer between the waveguide and the second layer) through which the optical waveguide is passed and a second layer (471) which abuts the first layer. But Wang fails to specifically disclose the first layer to have a greater compressibility than the second layer. However, Grossman does disclose "suitable values of flexibility and compressibility can be determined by those skilled in the art by conventional engineering and development procedures." Furthermore,

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it would be desirable for the first layer to have a greater compressibility than the second layer since the force/pressure is applied directly to the first layer to deform the fiber in order to more easily obtain the amount of force/pressure applied. Since Wang and Grossman are both from the same field of endeavor, it would have been obvious at the time the invention was made to a person having ordinary skill in the art for the first layer to have a greater compressibility than the second layer.

In regards to claim 9, Wang discloses all discussed above and further discloses a third layer (472), where the first layer (layer between the waveguide and the second layer) is disposed between the second (471) and third (472) layer. But Wang fails to specifically disclose the third layer to have a lower compressibility than the first layer. However, Grossman does disclose “suitable values of flexibility and compressibility can be determined by those skilled in the art by conventional engineering and development procedures.” Furthermore, it would be desirable for the third layer to have a lower compressibility than the first layer in order to protect the waveguide from bending too far, past the bending radius of the waveguide, causing damage to the waveguide. By choosing a layer with a lower compressibility, this can be prevented. Since Wang and Grossman are both from the same field of endeavor, it would have been obvious at the time the invention was made to a person having ordinary skill in the art for the first layer to have a lower compressibility than the first layer.

In regards to claim 10, Grossman discloses the waveguide (303 & 304) to be passed though the sensor (76 & 78) at least twice. (Figure 12)

In regards to claim 11, Grossman shows (Figure 9) the optical waveguide (58) to be passed through the sensor (60 & 62) in a wave-like configuration. In Figure 9, it can be seen that

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the waveguide is weaved through the monofilaments and threads to form a wave-like configuration. Furthermore, Wang also shows (Figure 4c) the optical waveguide to be passed through a sensor in a wave-like configuration.

Response to Arguments

Applicant's arguments with respect to claims 1-3 and 6-11 have been considered but are moot in view of the new ground(s) of rejection.

The applicant's arguments have been carefully studied and re-evaluated by the examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. In view of further search, however, and the consequent discovery of relevant prior art documents, a new rejection is set forth. This action is **not** made final.

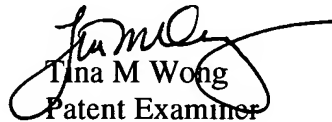
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Tina M Wong
Patent Examiner
Art Unit 2874